

Appl. No. 10/815,372
Amdt Dated May 22, 2006
Reply to Office Action Feb. 22, 2006

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): A mounting device assembly comprising:

a circuit board having an electronic component mounted thereon;

a heat sink comprising a base, and a plurality of fins arranged on the base;

a unitary mounting device for mounting the heat sink to the circuit board, the mounting device comprising a body defining an opening for receiving the electronic component therethrough such that the electronic component contacts the base, the body comprising a plurality of beams surrounding the electronic component and being sandwiched between the base and the circuit board;

locking means for locking the heat sink to the mounting device without interference to the fins; and

latching means for latching the mounting device to the circuit board;
wherein the beams comprises a pair of longitudinal beams, and the locking means comprises a plurality of cutouts defined in opposite longitudinal sides of the base of the heat sink, and a plurality of fasteners formed on the longitudinal beams of the mounting device and engaging in the cutouts.

Claim 2 (cancelled)

Claim3 (currently amended): The mounting device assembly as claimed in

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claim 21, wherein the latching means comprises a pair of locking slots defined in the circuit board on opposite sides of the electronic component, and a pair of latches formed on bottoms of the longitudinal beams and engaging in the locking slots respectively.

Claim 4 (original): The mounting device assembly as claimed in claim 3, wherein the circuit board defines a plurality of pairs of locating openings surrounding the electronic component, and the body of the mounting device comprises a plurality of pairs of feet received in the locating openings respectively.

Claim 5 (original): The mounting device assembly as claimed in claim 3, wherein the base of the heat sink defines a pair of holes in opposite lateral side portions thereof, the beams further comprise a pair of lateral beams, a pair of posts is formed on the lateral beams, and the posts are fittingly received in the holes.

Claim 6 (currently amended): A mounting device assembly comprising:
a circuit board having an electronic component mounted thereon;
a heat sink comprising a base, and a plurality of fins provided on the base;
and
a mounting device for mounting the heat sink to the circuit board, the mounting device comprising:
a body defining an opening for extension the electronic component

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therethrough to contact the base, and comprising a plurality of beams surrounding the electronic component and being sandwiched between the base and the circuit board;

engaging means integrally formed from the body for engaging with the heat sink at outsides of the fins; and

latching means integrally formed from the body for latching the mounting device to the circuit board; wherein the base of the heat sink defines a plurality of cutouts in opposite longitudinal sides thereof, the beams comprise a pair of longitudinal beams, and the engaging means comprises a plurality of fasteners formed on the longitudinal beams and engaging in the cutouts.

Claim 7 (cancelled)

Claim 8 (currently amended): The mounting device assembly as claimed in claim 76, wherein the circuit board defines a pair of locking slots on opposite sides of the electronic component, and the latching means comprises a pair of latches formed on bottoms of the longitudinal beams and engaging in the locking slots.

Claim 9 (original): The mounting device assembly as claimed in claim 8, wherein the circuit board defines a plurality of pairs of locating openings surrounding the electronic component, and the body of the mounting device comprises a plurality of pairs of feet received in the locating openings

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respectively.

Claim 10 (original): The mounting device assembly as claimed in claim 8, wherein the base of the heat sink defines a pair of holes in opposite lateral side portions thereof, the beams further comprise a pair of lateral beams, a pair of posts is formed on the lateral beams, and the posts are fittingly received in the holes.

Claim 11 (currently amended): A mounting device assembly comprising:

a circuit board having an electronic component mounted on a surface thereof;

a heat sink having a long side and a short side adjoining the long side;

a mounting device being arranged between the circuit board and the heat sink and around the electronic component, the mounting device having a length shorter than the long side of the heat sink and a width shorter than the short side of the heat sink, whereby a boundary of the mounting device is located within and under the heat sink;

fasteners being formed on one of the mounting device and the heat sink and snappingly engaged with the other of the mounting device and the heat sink, thus fastening the mounting device to the heat sink; and

latches being formed on one of the mounting device and the circuit board and snappingly engaged with the other of the mounting device and the circuit board, thus latching the mounting device to the circuit board.

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Claim 12 (original): The mounting device assembly of claim 11, wherein the mounting device is a substantial rectangular plate.

Claim 13 (original): The mounting device assembly of claim 12, wherein four pairs of feet are formed on four corner portions of the mounting device, each pair of the feet are oriented perpendicular to each other and fittingly engaged in the circuit board.

Claim 14 (original): The mounting device assembly of claim 11, wherein the fasteners are formed on the mounting device and snap a base plate of the heat sink which is in contact with the electronic component.

Claim 15 (original): The mounting device assembly of claim 11, wherein the latches are formed on the mounting device and snap a surface of the circuit board opposite to the surface where the electronic component mounted.

Claim 16 (original): The mounting device assembly of claim 11, wherein said mounting device is provided with an upward plane supporting a base of the heat sink, and defines an opening to allow one of said heat sink and said electronic component to extend therethrough to contact the other.

Claim 17 (new): The mounting device assembly of claim 1, wherein the base of the heat sink has a long side and a short side, and the mounting device has a length shorter than the long side of the base and a width shorter than the

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short side of the base, whereby a boundary of the mounting device is located within and under a boundary of the base of the heat sink.

Claim 18 (new): The mounting device assembly of claim 6, wherein the base of the heat sink has a long side and a short side, and the mounting device has a length shorter than the long side of the base and a width shorter than the short side of the base, whereby a boundary of the mounting device is located within and under a boundary of the base of the heat sink.